

Notice of Allowability	Application No.	Applicant(s)	
	09/894,627	BOLAND ET AL.	
	Examiner	Art Unit	
	Wes Tucker	2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 1-30-06.
2. ☒ The allowed claim(s) is/are 1-17.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

Response to Amendments

1. Applicant's response to the last office action filed Jan. 30, 2006 has been entered and made of record.
2. Applicant has amended claims 1, 3, 4, 9, 11, 12 and 16 have been amended. Claims 1-17 are currently pending.
3. Applicants remarks in view of the now presented amendments have been considered and are found to be persuasive in overcoming the prior art of record.
4. Claims 1-17 are allowable and reasons for allowance are listed below.

Claim Rejections - 35 USC § 112

5. The previously presented 112 first and second paragraph rejections of Claims 1, 9 and 16 are hereby withdrawn because applicant has amended the claims so they no longer contain the rejected subject matter of "non-orthogonal capture positions" or the mention of "image errors due to distortion."

Reasons for Allowance

6. Claims 1-17 are allowed.

The following is an examiner's statement of reasons for allowance:

Applicant makes clear the distinguishing factors between the reference of Sachdeva and the present invention in the remarks section of the amendment on pages

Art Unit: 2623

7-11. To summarize, Sachdeva discloses the use of a target placed on a tooth or intra-oral object that enables the calculation of scaling factors and such in determining a 3D dental model in the same environment of the present invention. Sachdeva does not disclose the newly amended features claimed as having the control target "comprised of rigid lengths of material arranged in three dimensions with respect to the object to provide control features comprising vertices between rigid lengths."

Also Sachdeva does not disclose the newly amended features claimed in step (c) of "analytically generating a 3-dimensional model of the object by photogrammetrically adjusting the image parameters according to a multi-ray stereo intersection process by using the measurements of the control features to compute object-space coordinates of any object point which is images in the overlapping images from varying capture orientations, thereby providing a photogrammetrically aligned 3-dimensional model of the object that has been processed with an analytical representation of a physical model which represents the imaging process of the sensor that captured the images thereby reducing image errors due to the imaging process including the variable orientations of the capture positions."

Neither Sachdeva nor any other found prior art teach or reasonably suggest performing the photogrammetrical alignment as claimed in detail by the present application. More detailed distinctions are explained in Applicants remarks.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

Art Unit: 2623

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wes Tucker whose telephone number is 571-272-7427. The examiner can normally be reached on 9AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on 571-272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Wes Tucker

2-4-06



VIKKRAM BALI
PRIMARY EXAMINER